



VERSION WITH MARKINGS TO SHOW CHANGES MADE

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OCT - 3 2001

TC 2800 MAIL ROOM

In the specification:

Paragraph beginning at line 6 of page 9 has been amended as follows:

Housing 10 encloses stator 1 with its stator winding 4, and rotor 2. Rotor 2 is supported at the [read] rear and front ends of housing 10 by ceramic bearing assemblies 5 and 6 respectively. Bearing assemblies 5 and 6 are functionally identical, each having a ceramic inner race 21, attached by a glue joint 8 to a respective end of rotor 2, and an outer race 25, attached by a glue joint 11 to a respective end of stator 1. Stator 1 is in turn secured by glue joint 7 within housing 10. Housing 10, stator 1 and rotor 2 are all fabricated using matched expansion, nickel-iron alloy ratios generally between 30/70% and 70/30% as is required to match the thermal expansion characteristics of the ceramic bearing assemblies in the normal temperature range of the device.

In the claims:

Claims 1 through 4 have been canceled.

Claims 5 through 11 have been added as follows:

5. (New) A partial rotation torque motor comprising a rotatable shaft supported by ceramic ball bearing assemblies, said bearing assemblies supported by a bearing support structure, said shaft and said bearing support structure having the same coefficient of thermal expansion as said ceramic bearing assemblies.

6. (New) A partial rotation torque motor according to claim 5, each said ceramic bearing assemblies comprising a ceramic inner race, ceramic bearing balls, and a ceramic outer race.

7. (New) A partial rotation torque motor according to claim 5, said shaft and said bearing support structure fabricated of nickel-iron alloy.

8. (New) A partial rotation torque motor according to claim 5, said shaft being electrically isolated from said bearing support structure.

9. (New) A partial rotation torque motor for use in a galvanometer scanner, comprising a rotatable shaft supported by at least two ceramic ball bearing assemblies, said bearing assemblies supported by a bearing support structure, said shaft and said bearing support structure fabricated of nickel-iron alloy, each said ceramic bearing assemblies comprising a ceramic inner race, ceramic bearing balls, and a ceramic outer race, said shaft and said bearing support structure having the same coefficient of thermal expansion as said ceramic bearing assemblies, said shaft being electrically isolated from said bearing support structure.

10. (New) A partial-rotation torque motor comprising
a reversibly rotatable shaft rotationally restricted to less than one full turn, and
a stator and housing assembly within which said shaft is located, said shaft supported by all ceramic ball bearing assemblies, each said assembly including a ceramic inner race mounted on said rotatable shaft and a ceramic outer race mounted in said housing and multiple ceramic bearing balls interspersed there between, said shaft said stator and said housing assembly fabricated of a nickel-iron alloy of matched thermal expansion to said ceramic bearing assemblies, said shaft being electrically isolated from said stator and said housing.

11. (New) A partial-rotation torque motor according to claim 10, for use in a galvanometer scanner.